
LABORATORY
OF THE
INLAND REVENUE DEPARTMENT
OTTAWA, CANADA

BULLETIN No. 255

SWEET SPIRIT OF NITRE.

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OTTAWA, March 28, 1913.

Wm. HIMS WORTH, Esq.,
Acting Deputy Minister,
Inland Revenue.

SIR,—I beg to hand you a report upon 73 samples of Sweet Spirit of Nitre, obtained by our inspectors during December, 1912, and January, 1913.

The report shows that 41 samples contain the legal amount of Ethyl Nitrite, while 32 samples contain less than the minimum permitted by the British Pharmacopœia.

This important drug has on two former occasions been the subject of inspection, and has always been found to show a high percentage of adulteration; consisting not in the addition of foreign matters, but in containing less of the active principle (Ethyl Nitrite) than the standard set by the pharmacopœias requires.

As has been pointed out in former bulletins, and emphasized by the pharmacopœias, the article is prone to decomposition; and, unless kept with special care, will always deteriorate in the hands of the dealer. This fact is so well known to the drug trade that physicians have a right to expect special care on the part of the druggist, who is properly held responsible for the quality of the drugs he dispenses. The following table presents the results of three inspections of Sweet Spirit of Nitre:—

Bulletin.	Year.	Total samples.	Genuine.	Adulterated.
			p.c.	p.c.
167.....	1908	77	37	63
234.....	1911	74	57	43
255.....	1913	73	56	44

The minimum amount of Ethyl Nitrite required by the British Pharmacopœia is one and three-quarters per cent (1.75) by weight. Of the collection now reported, 44 per cent of the samples contain less than this amount; 30 per cent contain less than 1 per cent of Ethyl Nitrite; 14 per cent contain less than one-half of 1 per cent; while nearly nine per cent of the samples contain none at all.

Although the names of the manufacturers, or furnishers, as supplied by the vendor, are given in their proper places in the appended table, it is but right to insist that responsibility for the quality of Sweet Spirit of Nitre should rest upon the immediate dealer, or vendor of the article. There is no reason to believe that any manufacturer of repute furnishes this drug otherwise than up to standard strength. The name of the manufacturer or furnisher is given in accordance with Section 19 of the Act, and not because of any proved negligence on his part.

It is abundantly evident, in view of the continued sale of this drug in a condition in which it seriously handicaps the physician, and imperils the well-being of the patient, that druggists must be made to realize their responsibility in dispensing drugs which fail to meet the standard set by the pharmacopœias.

I beg to recommend publication of this report as Bulletin 255.

I have the honour to be, Sir,
Your obedient servant,

A. MCGILL,
Chief Analyst.

NOTE.

It seems proper to explain that there is always considerable delay in publishing the results of analysis, due to correspondence with manufacturers and vendors, involving weeks or months in some instances. In the present case, collection of samples was made by our inspectors between the 15th December, 1912, and the 30th January, 1913. The samples were contained in 2-ounce bottles and quite filled. On receipt here they were at once placed in a dark refrigerator. Analysis was begun on the 15th January, and very few samples were more than two or three weeks in storage.

Under these conditions, I cannot believe that deterioration proceeded while the samples were in the possession of the department.

Experiments made by the late Franklin T. Harrison, Public Analyst, proved that Sweet Spirits of Nitre made according to British Pharmacopœal directions can be kept, without change, for a year, under proper precautions. (See Bull No. 23, p. 7.)

If this important drug cannot be procured by physicians in such condition as the pharmacopœia requires, it should either be removed from the pharmacopœia altogether, or physicians must learn to employ it in full knowledge of its doubtful character and be prepared for most erratic and uncertain results.

The fact is that it can be prepared and kept by careful and intelligent druggists, and that this is not done must be regarded as a disgrace to the drug trade, and a very serious menace to the public.

BULLETIN No. 255—SPIRIT OF NITROUS ETHER.

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher as given by the Vendor.		Inspector's Report. (Is not an expersion of opinion.)	Results of Analysis.			Remarks and Opinion of the Chief Analyst.
				Quantity.	Cents.	Manufacturer.	Furnisher.		Ratio of vol. of Gas to vol. of Liquid.	Ethyl Nitrite per cent by weight.	No. of Sample.	

DISTRICT OF NOVA SCOTIA—R. J. WAUGH, INSPECTOR.

1913.	Jan. 14	Spirit of Nitrous Ether.	46641	National Drug Co., Halifax, N.S.	6 oz.	60	Unknown	Unknown	0.840	8.96	3.26	46641	Genuine.
"	" 16	"	46642	Buckley Drug Co., Halifax, N.S.	6 "	60	Nat. Drug Co., Halifax, N.B.	Mrs.	0.820	2.77	1.01	46642	Adulterated.
"	" 16	"	46643	J. McD. Taylor, Halifax, N.S.	6 "	60	Howard & Sons, London, Eng.	E. R. Sutcliffe, Halifax, N.B.	0.847	1.42	0.50	46643	"
"	" 16	"	46644	Jan. D. Walsh, Halifax, N.S.	6 "	50	" "	"	0.848	2.32	0.91	46644	"
"	" 20	"	46645	H. E. Wilson, Windsor, N.S.	6 "	40	Lymans Ltd., Montreal.	Mrs.	0.863	6.64	2.41	46645	Genuine.

DISTRICT OF PRINCE EDWARD ISLAND—WM. A. WELKS, INSPECTOR.

Jan.	6	Spirit of Nitrous Ether.	46354	Geo. E. Hughes, Charlottetown, P.E.I.	6 oz.	60	Lymans' Ltd., Montreal.		0.845	3.79	1.14	46354	Adulterated.
"	" 7	"	46355	D. O. M. Reddin, Charlottetown, P.E.I.	6 "	60			0.853	2.67	0.97	46355	"
"	" 7	"	46356	J. G. Jamieson, Charlottetown, P.E.I.	6 "	75	Lymans' Ltd., (Special) Montreal.		0.855	2.86	1.04	46356	"
"	" 13	"	46357	The Two Mac's, Charlottetown, P.E.I.	6 "	60	Lymans & Co., Montreal.		0.845	1.62	0.50	46357	"
"	" 14	"	46358	F. W. Jardine, Kensington, P.E.I.	6 "	60	Evans Sons Lescher & Webb, Ltd., Liverpool, Eng.		0.860	2.01	0.75	46358	"

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				Quantity.	Cent.			Ratio of vol. of Gas to vol. of Liquid.	Ethyl Nitrite per cent by weight.	No. of Sample.	

DISTRICT OF EASTERN QUEBEC—A. PELLETIER, INSPECTOR.

1912.											
Dec. 24	Spirit of Nitrous Ether	53306	L. J. Marceau, Rimouski.	6 oz.	50	L. McEwen Co., Montreal.	.....	0.831	6.96	2.53	53306 Genuine.
" 24	"	53307	F. T. LePage, Rimouski.	6 "	50	Howard & Sons, Stratford, Ont.	.....	0.845	1.90	0.70	53307 Adulterated.
" 26	"	53310	E. O. Clouthier, Fraserville.	6 "	75	W. Brunet, Quebec.	.....	0.946	0.00	0.00	53310 Adulterated. No ethyl nitrite.

DISTRICT OF EASTERN TOWNSHIPS—J. J. COSTIGAN, ACTING INSPECTOR.

1913.											
Jan. 28	Spirit of Nitrous Ether	51151	D. Richard, Sherbrooke, P.Q.	6 oz.	65	Lyman Knox Co., Montreal.	.....	0.834	6.50	2.36	51151 Genuine.
" 29	"	51152	E. C. Drolet, atiook.	6 "	50	Nat. Drug & Chem. Co., Ltd.	.....	0.857	5.12	1.90	51152 "
" 30	"	51153	J. C. Stockwell, Danville, P.Q.	6 "	50	Lyman Ltd.	.....	0.844	5.80	2.11	51153 "
" 30	"	51154	J. A. Viger, St. Hyacinthe, P.Q.	6 "	45	"	0.857	2.47	0.90	51154 Adulterated.
" 30	"	51155	J. H. E. Brodeur, St. Hyacinthe, P.Q.	6 "	60	"	0.856	0.44	0.16	51155 "

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DISTRICT OF OTTAWA—J. A. RICKEY, INSPECTOR.

Dec.	25	Spirit of Nitrous Ether.	51672	Chas. A. Adams Kempville.	60	60	T. Chamberlin & Co., Prescott. Mfrs.....	0.957	0.00	0.96	51673	Adulterated. ethyl nitrite.	No
"	24	"	51673	M. R. MacFarlane, Almonte.	60	60	Lyman's Ltd., Montreal.		0.871	1.82	0.66	51673	Adulterated.	
"	26	"	51674	The Ottawa Nat. Pharmacy, Ltd., Dalhousie st., Ottawa.	60	30	Vendors		0.831	2.67	0.97	51674	"	
"	27	"	51675	La Pharmacie Moderne, Ltd., Hull, P.Q.	60	70	Nat. Drug & Chem. Co., Ltd., Ottawa.	Mfrs.....	0.850	2.25	0.82	51675	"	
"	30	"	51676	D. J. Stalker, drug- gist, Ottawa.	60	60	"	"	0.857	5.30	1.89	51676	Genuine.	

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Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher as given by the Vendor.		Inspector's Report. (Is not an expression of opinion).	Results of Analysis.		No. of Sample.	Remarks and Opinion of the Chief Analyst.
				Quantity.	Cents.	Manufacturer.	Furnisher.		Ratio of vol. of Gas to vol. of Liquid.	Ethyl Nitrite per cent by weight.		

DISTRICT OF KINGSTON—JAS. HOGAN, INSPECTOR.

1912.												
Dec. 18	Spirit of Nitrous Ether.	53021	D. G. Blurker, 6 oz.	20		Nat. Drug Co., Toronto.			0.887	5.05	1.84	53021 Genuine.
" 18	"	53022	D. M. Belleville, 6 "	35		Vendor			0.875	5.50	2.00	53022 "
" 18	"	53023	O. G. Johns, Co., 6 "	50		Howard			0.845	3.74	1.36	53023 Adulterated.
" 18	"	53024	T. G. Watson, 6 "	60		Nat. Drug Co., Toronto.			0.845	6.50	2.30	53024 Genuine.
" 19	"	53025	C. M. Moncur, 6 "	70		"			0.864	4.75	1.73	53025 "

DISTRICT OF TORONTO—H. J. DAGER, INSPECTOR.

1913.												
Jan. 14	Spirit of Nitrous Ether.	51571	A. E. Gregory, 158 6 oz.	30		Vendor			0.886	1.63	0.61	51571 Adulterated.
" 14	"	51572	J. A. Gallagher, 6 "	35		Drug Trading Co., Ltd., Toronto.			0.959	0.00	0.00	51572 " ethyl nitrite.
" 14	"	51573	W. A. Hertel, 6 "	50		Nat. Drug & Chem. Co., Ltd., Toronto.			0.919	0.31	0.14	51573 Adulterated.
" 14	"	51574	Mackenzie Brown, 6 "	35		Unknown			0.918	0.35	0.13	51574 "
" 14	"	51575	C. J. Stoddart, 1781 6 "	50		Lyman Bros. & Co., Ltd., Toronto.			0.918	2.83	1.03	51575 "

DISTRICT OF WINDSOR-JNO. TALBOT, INSPECTOR.

39221	Jan.	2	Spirit of Ni- trous Ether.	47906 W. T. Rapley & Co., Strathroy.	12 oz.	106	Nat. Drug Co., London.	0.841	5.21	1.91	47906	Genuine.	
"	"	3	"	47908 T. H. Hyde, Wood- stock, Ont.	6 "	60	Nat. Drug Co., Hamilton.	0.825	7.18	2.61	47908	"	
"	"	3	"	47913 E. A. Rea, Wood- stock, Ont.	6 "	50	Vendor	0.872	10.20	3.73	47913	"	
"	"	6	"	47918 E. C. Harvey, St. Thomas.	6 "	60	"	Made from concen- trated ether.	0.828	3.99	1.47	47918	Adulterated.
"	"	6	"	47921 F. P. Reynolds, St. Thomas.	6 "	60	Lyman Bros., To- ronto.	0.828	9.40	3.43	47921	Genuine.	

DISTRICT OF MANITOBA-H. ASHTON, ACTING INSPECTOR.

Jan. 31	Spirit of Ni- trous Ether.	48801 C. A. Baird, Gros- venor & Stafford, Winnipeg.	6 oz.	75	Mallinckrodt, New York.	0.826	7.41	2.69	48801	Genuine.
" 31	"	48802 Brookings Drug Store, 751 Grey don, Winnipeg.	6 "	46	"	0.813	10.69	3.67	48802	"
" 31	"	48803 F. L. Brown, 551 Pembina, Win- nipeg.	6 "	50	"	0.832	8.76	2.39	48803	"
" 31	"	48804 B. C. Juby, Pem- bina St., Win- nipeg.	6 "	60	"	0.831	9.61	3.58	48804	"
" 31	"	48805 F. P. Seale, 236 River Ave., Win- nipeg.	6 "	50	Nat. Drug & Chem. Co. of Canada.	0.827	4.57	1.67	48805	Adulterated.

DISTRICT OF ROCKY MOUNTAINS-THOS. PARKER, INSPECTOR.

Jan. 3	Spirit of Ni- trous Ether.	49793 Uram Drug Store, Grand Forks, B.C.	6 oz.	75	Nat. Drug Co., Vancouver, B.C.	0.845	2.88	1.06	49793	Adulterated.
" 3	"	49794 Woodland & Co., Grand Forks, B.C.	6 "	60	May & Baker, Lon- don, Eng.	0.848	5.00	1.82	49794	Genuine.
" 8	"	49902 Canada Drug & B. Co., Nelson, B.C.	6 "	75	Nat. Drug Co., Vancouver, B.C.	0.829	8.25	3.00	49902	"
" 8	"	49803 P oole Drug Co., Nelson, B.C.	6 "	75	Mallinckrodt Chem. Wks. St., Louis, Missouri.	0.829	8.02	2.98	49803	"
" 8	"	49804 Rutherford Drug Co., Nelson, B.C.	6 "	60	May & Baker, Lon- don, Eng.	0.844	7.56	2.75	49804	"

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				Quantity.	Cents.	Manufacturer	Furnisher.		Sp. Gr. at 15° C.	Ratio of vol. of Gas to vol. of Liquid	Ethyl Nitrite per cent by weight.		

DISTRICT OF VANCOUVER—J. F. POWER, INSPECTOR.

1912.	Jan. 22	Spirit of Nitrous Ether.	38484	W. E. Alma, Painter & Burrard St. Vancouver, B.C.	6 oz.	90			Vendor	Made from Mallinckrodt's concentrated nitrous ether.	0.829	8.68	3.16	38484	Genuine.
"	22	"	38485	Campbell's Ltd., Drug Co., Granville & Hastings Sts., Vancouver, B.C.	6 "	75			Vendors	"	0.832	9.92	3.61	38485	"
"	22	"	38486	Owl Drug Store, Dunsmuir & Granville Sts., Vancouver, B.C.	6 "	75					0.835	4.51	1.64	38486	Adulterated.
"	22	"	38487	Vancouver Drug Co., Granville St., Vancouver, B.C.	6 "	75			Vendors	Made from Mallinckrodt's concentrated nitrous ether.	0.830	10.41	3.78	38487	Genuine.
"	22	"	38488	Leslie Henderson, Georgia & Granville Sts., Vancouver, B.C.	6 "	75			Nat. Drug & Chem. Co., Vancouver, B.C.		0.822	9.54	3.47	38488	"

DISTRICT OF VICTORIA—D. O'SULLIVAN, INSPECTOR.

Jan. 28	Spirit of Nitrous Ether.	53506	F. J. Williams, 613 1/2 Port St., Victoria B.C.	35	Vendor .....	.....	Made from concentrated nitrous ether supplied by Mallinckrodt, St. Louis, Missouri.	0.832	6.25	2.27	53508	Genuine.
"	"	53509	D. E. Campbell, 650 1/2 Fort St., Victoria B.C.	75	Burgoyne Burdidge, London, Eng.	.....	.....	0.846	5.61	2.06	53509	"
28	"	53516	Terry's Drug Store, 705 Fort St., Victoria, B.C.	50	Vendor .....	.....	Made from concentrated nitrous ether supplied by Mallinckrodt, St. Louis, Missouri.	0.933	0.07	0.02	53510	Adulterated.
"	"	53511	Central Drug Store, 702 Gates St., Victoria, B.C.	75	Lyman's Ltd., Montreal.	.....	.....	0.839	4.26	1.55	53511	"
28	"	53512	John Cochran, 1300 Douglas St., Victoria, B.C.	75	May & Baker, London, Eng.	.....	.....	0.843	6.78	2.46	53512	Genuine.